

Proposed Project

Upper Little Patuxent Watershed

Project Number: BF19
Subwatershed: Red Hill Branch

Project Type: Riparian Buffer Replacement / Reforestation
Project Size: Approx. 465 feet in length / 0.49 acres

Project Location: Behind homes along Stallion Court.



Project Description: As shown in the above photo taken by field crews in 2008, the riparian buffer on the left bank (facing downstream) has been severely reduced. There is erosion occurring along the channel in this area as well. Howard County Recreation and Parks indicates that this area is a forest conservation site with approximately 40% survival rate. Based on Recreation and Parks field assessment, this project would entail planting of an additional 200 native trees and shrubs to widen the existing buffer. Mowing and control of invasive thistle would be required prior to planting. Homeowner education would also be a necessary part of the project to ensure survivability of trees and the understory.

Use of volunteer assistance for site preparation, planting and necessary maintenance and monitoring of the site could help reduce overall project cost.

Project Benefits:

Stabilization	Additional trees and shrubs will help stabilize the stream bank.
Habitat	The project will provide additional terrestrial forest habitat.
Water Quality	A more established buffer will provide shading effects to reduce water temperature and will trap runoff and pollutants such as fertilizers from the adjacent property.

Project Constraints:

Environmental	No environmental/permitting constraints are present.
Property Ownership	This property lies within the Meadowbrook Park boundary.
Facility Access	Access to this site is obtained from an easement off of Stallion Court.
Design / Construction	No major design or construction constraints are present. The design should incorporate native vegetation and a marked no-mow zone for understory development.

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Cost Detail:

ITEM	QTY	UNITS	UNIT COST	TOTAL (Volunteer Labor)	TOTAL (Without Volunteer Labor)
Riparian Buffer Replacement					
Plant Material (trees)	0.49	AC	\$2,240.00	\$1,098	\$1,098
Plant Material (shrubs)	0.49	AC	\$1,645.00	\$806	\$806
Mulch, Tree Shelter	200	PLANTS	\$6.00	\$1,203	\$1,203
Cost to Plant	200	PLANTS	\$6.00	\$0	\$1,203
Site Preparation (volunteer)		AC	\$0.00	\$0	\$0
Basic Site Maintenance and Monitoring (volunteer)		AC	\$0.00	\$0	\$0
Direct Construction Subtotal				\$3,106	\$4,309
Base Construction Cost				\$3,106	\$4,309
Mobilization (10% of Directs or \$1,000)				\$0	\$0
Subtotal				\$3,106	\$4,309
Contingency (30%)				\$932	\$1,293
Construction Subtotal				\$4,038	\$5,601
Env't'l Studies / Permitting (5% of Construction or \$1,000)				\$0	\$0
Landscape Design and Surveys (25% of Construction or \$5,000)				\$0	\$0
Total Capital Cost				\$4,038	\$5,601
Operations and Maintenance Costs					
Annual Maintenance	5	Percent		\$155	\$215
Discount Rate	5	Percent			
Expected Life	5	Years			
Net Present Value of Annual Costs				\$672	\$933
Life Cycle Cost				\$4,800	\$6,600

Cost Notes and Assumptions:

Project costs were derived for both volunteer and paid labor. In calculating costs for volunteer labor it is assumed that local volunteer organizations could accomplish the project with County assistance and oversight. Site preparation, planting and any necessary maintenance and monitoring would be conducted by volunteers.

Size and species of trees and shrub plant material is based on approved Howard County Recreation and Parks information and is typically a 3-4 foot plant. Use of more mature or more immature plant material would affect the planting density and cost per plant.

Cost of plant material is based on 2009 survey of local and regional wholesale native plant nurseries. Plant material (seedlings) may also be obtained from the Maryland Department of Natural Resources, State Forest Tree Nursery at a much reduced cost or through Howard County's Stream ReLeaf program at no cost.